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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/609,110

06/26/2003

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6097P042

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01/24/2007

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EXAMINER

BARAN, MARY C

ART UNIT

PAPER NUMBER

2857

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

01/24/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

10/609,110

Applicant(s)

SULIMAN ET AL.

Examiner

Mary Kate B. Baran

Art Unit

2857

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-47 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Amendment***

1. The action is responsive to the Amendment filed on 7 November 2006. Claims 1-47 are pending.
2. The arguments filed 7 November 2006 are sufficient to overcome the prior 35 U.S.C. 112 second paragraph rejections.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8, 16, 18, 20-29 and 34-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wills (U.S. Patent No. 6,810,339) in view of Tran et al. (U.S. Patent No. 7,065,458) (hereinafter Tran).

Referring to claims 1, 20 and 34, Wills teaches monitoring a voltage output from a plurality of wind turbine generators (see Wills, column 5 lines 57-67 and column 6 lines 10-20) coupled to a power network by sampling voltage levels of the power network (see Wills, column 6 lines 39-47), wherein a sampling rate of the voltage sampling circuit is greater than a frequency of the power supplied to the power network (see Wills, column 10 lines 15-24); and determining whether the sampled voltage levels

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are within a predetermined operating range (see Wills, column 9 line 40 – column 10 line 14); designating a selected voltage sample as a triggering event if the selected voltage sample is not within the predetermined operating range (see Wills, column 9 line 40 – column 10 line 14); and capturing voltage samples, wherein the captured voltage samples correspond to a predetermined time period preceding the triggering event and a predetermined time period after the triggering event (see Wills, column 10 lines 15-24 and lines 49-53), but does not specify that samples are captured in response to a triggering event.

Tran teaches that samples are captured in response to a triggering event (see Tran, column 3 lines 1-6).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Wills to include the teachings of Tran because capturing samples in response to an event would have allowed the skilled artisan to view only the data of interest.

Referring to claims 21 and 35, Wills teaches automatically classifying a voltage disturbance corresponding to the captured voltage samples (see Wills column 9 line 59 – column 10 line 14).

Referring to claims 22 and 36, Wills teaches automatically ranking a voltage disturbance corresponding to the captured voltage samples (see Wills, column 9 line 49 – column 10 line 24).

Referring to claims 2, 23 and 37, Wills teaches that the power network comprises a utility grid (see Wills, column 6 lines 55-65).

Referring to claims 3, 24 and 38, Wills teaches detection of a sampled voltage that exceeds a predetermined ceiling threshold (see Wills, column 7 line 49 – column 8 line 5).

Referring to claims 4, 25 and 39, Wills teaches that the predetermined ceiling threshold comprises a voltage greater than 110% of rated voltage for the generators (see Wills, column 7 lines 30-41).

Referring to claims 5, 26 and 40, Wills teaches that the predetermined ceiling threshold comprises a voltage greater than 105% of rate voltage for the generators (see Wills, column 7 lines 30-41).

Referring to claims 6, 27 and 41, Wills teaches that a triggering event comprises detection of a sampled voltage that exceeds a predetermined floor threshold (see Wills, column 7 line 51 – column 8 line 5).

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Referring to claims 7, 28 and 42, Wills teaches that the predetermined floor threshold comprises a voltage less than 70% of rated voltage for the generators (see Wills, column 7 lines 30-41).

Referring to claims 8, 29 and 43, Wills teaches that the predetermined floor threshold comprises a voltage less than 30% of rated voltage for the generators (see Wills, column 7 lines 30-41).

Referring to claim 16, Wills teaches that the frequency is 60 Hertz (see Wills, column 10 lines 32-35).

Referring to claim 18, Wills teaches that the frequency is 50 Hertz (see Wills, column 10 lines 32-35).

4. Claims 9-15, 17, 19, 30-33 and 44-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wills (U.S. Patent No. 6,810,339) in view of Tran et al. (U.S. Patent No. 7,065,458) (hereinafter Tran) and in further view of Gibson (U.S. Patent No. 5,508,607).

Referring to claims 9, 30 and 44, Wills and Tran teach all the features of the claimed invention except that the predetermined period of time preceding the triggering event comprises approximately one cycle preceding the triggering event.

Gibson teaches that the predetermined period of time preceding the triggering event comprises approximately one cycle preceding the triggering event (see Gibson, column 8 line 57 – column 9 line 7).

It would have been obvious at the time the invention was made to modify Wills and Tran to include the teachings of Gibson because capturing data for a predetermined time period either before or after a triggering event would have allowed the skilled artisan to ensure that the event was captured, as well as determining how the system was running prior to the event and whether or not the event was resolved.

Referring to claims 10, 31 and 45, Wills and Tran teach all the features of the claimed invention except that the predetermined period of time preceding the triggering event comprises less than one cycle preceding the triggering event.

Gibson teaches that the predetermined period of time preceding the triggering event comprises less than one cycle preceding the triggering event (see Gibson, column 8 line 57 – column 9 line 7).

It would have been obvious at the time the invention was made to modify Wills and Tran to include the teachings of Gibson because capturing data for a predetermined time period either before or after a triggering event would have allowed the skilled artisan to ensure that the event was captured, as well as determining how the system was running prior to the event and whether or not the event was resolved.

Referring to claims 11, 32 and 46, Wills and Tran teach all the features of the claimed invention except that the predetermined period of time after the triggering event comprises approximately one cycle preceding the triggering event.

Gibson teaches that the predetermined period of time after the triggering event comprises approximately one cycle preceding the triggering event (see Gibson, column 8 line 57 – column 9 line 7).

It would have been obvious at the time the invention was made to modify Wills and Tran to include the teachings of Gibson because capturing data for a predetermined time period either before or after a triggering event would have allowed the skilled artisan to ensure that the event was captured, as well as determining how the system was running prior to the event and whether or not the event was resolved.

Referring to claims 12, 33 and 47, Wills and Tran teach all the features of the claimed invention except that the predetermined period of time after the triggering event comprises less than one cycle preceding the triggering event.

Gibson teaches that the predetermined period of time after the triggering event comprises less than one cycle preceding the triggering event (see Gibson, column 8 line 57 – column 9 line 7).

It would have been obvious at the time the invention was made to modify Wills and Tran to include the teachings of Gibson because capturing data for a predetermined time period either before or after a triggering event would have allowed



the skilled artisan to ensure that the event was captured, as well as determining how the system was running prior to the event and whether or not the event was resolved.

Referring to claim 13, Wills and Tran teach all the features of the claimed invention except that the samples are stored in a volatile memory of a first device and the captured samples are stored in a non-volatile memory of a second device.

Gibson teaches that the samples are stored in a volatile memory of a first device and the captured samples are stored in a non-volatile memory of a second device (see Gibson, column 5 lines 7-19 and column 9 lines 3-7).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Wills and Tran to include the teachings of Gibson because storing the samples on volatile memory and then transferring them to non-volatile memory would have allowed the skilled artisan to overwrite the data when it is gathered on-site and still maintain a copy of the data to be analyzed later.

Referring to claim 14, Wills and Tran teach all the features of the claimed invention except a network interface coupled with the sampling circuit and to the triggering circuit to transmit the captured samples to a remote location.

Gibson teaches a network interface coupled with the sampling circuit and to the triggering circuit to transmit the captured samples to a remote location (see Gibson, column 4 lines 44-51 and column 9 lines 3-7).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Wills and Tran to include the teachings of Gibson because storing the samples on volatile memory and then transmitting them to non-volatile memory would have allowed the skilled artisan to overwrite the data when it is gathered on-site and still maintain a copy of the data to be analyzed later.

Referring to claim 15, Wills and Tran teach all the features of the claimed invention except that the samples are stored in a circular buffer and captured samples are retrieved from the circular buffer and stored in a non-volatile memory.

Gibson teaches that the samples are stored in a circular buffer and captured samples are retrieved from the circular buffer and stored in a non-volatile memory (see Gibson, column 8 lines 31-34).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Wills and Tran to include the teachings of Gibson because a circular buffer would have allowed the skilled artisan to overwrite previously stored data once the buffer is full (see Gibson, column 8 lines 33-34).

Referring to claim 17, Wills and Tran teach all the features of the claimed invention except that the sampling rate is 240 Hertz.

Gibson teaches that the sampling rate is 240 Hertz (see Gibson, column 8 lines 35-39).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Wills and Tran to include the teachings of Gibson because acquiring data at a sampling rate greater than that of the frequency would have allowed the skilled artisan to ensure that a trigger event was collected.

Referring to claim 19, Wills and Tran teach all the features of the claimed invention except that the sampling rate is 200 Hertz.

Gibson teaches that the sampling rate is 200 Hertz (see Gibson, column 8 lines 49-54).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Wills and Tran to include the teachings of Gibson because acquiring data at a sampling rate greater than that of the frequency would have allowed the skilled artisan to ensure that a trigger event was collected.

### ***Response to Arguments***

5. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it would have

been obvious at the time the invention was made to one of ordinary skill in the art to modify Wills to include the teachings of Tran because capturing samples in response to an event would have allowed the skilled artisan to view only the data of interest.

6. Applicant's arguments filed 7 November 2006 have been fully considered but they are not persuasive.

Applicant argues that Wills does not teach "capturing voltage samples in response to the triggering event, wherein the captured voltage samples correspond to a predetermined time period preceding the triggering event and a predetermined time period after the triggering event." However, this limitation is now met by the teachings of Tran. Wills teaches sampling voltages continuously to monitor changes between an immediate value and a past value (see Wills, column 10 lines 54-63). These changes are then used to determine if a trend is forming (see Wills, column 10 lines 15-24), and if a trend is determined and a threshold is exceeded (see Wills, column 8 lines 53-57) corrective action is taken (see Wills, column 9 line 49 – column 10 line 14). Assuming an exceeded threshold is a trigger, data is continuously collected and sampled during the entire process. Wills does not specify that the sampled data is captured in response to a trigger. However, Tran teaches an acquisition unit, which produces an acquired sample stream for processing and display in response to a trigger signal (see Tran, column 3 lines 1-6). It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Wills to include the teachings of Tran because

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capturing samples in response to an event would have allowed the skilled artisan to view only the data of interest.

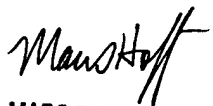
### **Conclusion**

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary Kate B. Baran whose telephone number is (571) 272-2211. The examiner can normally be reached on Monday - Friday from 9:00 am to 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached on (571) 272-2216. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

20 January 2007

  
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